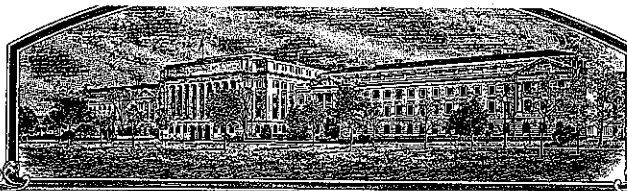


No.

200100198



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Plant Breeders 1 Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

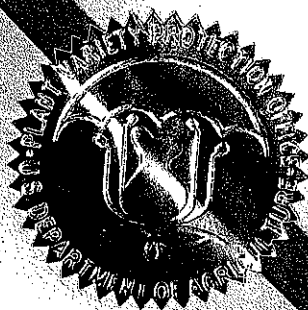
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'A629'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighteenth day of April, in the year two thousand two.

Attest:

P. L. M. Jahl

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

W. C. Sherman

Secretary of

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a), and the Paperwork Reduction Act (PRA) of 1995

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426)

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

1. NAME OF OWNER Plant Breeders 1 Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME PB1-95-2R-A629		3. VARIETY NAME 'A629'	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 851 East 7th Street Moscow, ID 83843		5. TELEPHONE (include area code) 208-882-4483		FOR OFFICIAL USE ONLY PVPO NUMBER 200100198	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Idaho		9. DATE OF INCORPORATION Jan 1, 1985	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Wayne L. McProud 851 East 7th Street Moscow, ID 83843				FILING AND EXAMINATION FEES: FILING \$ 2450.00 DATE 5/14/01 CERTIFICATION FEE: \$ 320.00 DATE 3/6/02	
11. TELEPHONE (Include area code) 208-882-4483		12. FAX (Include area code)		13. E-MAIL pb1@moscow.com	
14. CROP KIND (Common Name) Barley		15. GENUS AND SPECIES NAME OF CROP Hordeum vulgare		16. FAMILY NAME (Botanical) Gramineae	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)	
20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 1999 to test on field scale IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER Wayne L. McProud		SIGNATURE OF OWNER Vena L. McProud			
NAME (Please print or type) Wayne L. McProud		NAME (Please print or type) Vena L. McProud			
CAPACITY OR TITLE President		DATE May 7, 2001		CAPACITY OR TITLE Secretary	
DATE May 7, 2001		DATE May 7, 2001			

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO (1) Complete application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If a new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVP.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
-
22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)
-
23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)
-

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213 Building 306, Beltsville Agricultural Research Center—East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (No prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

Exhibit A: Amended origin and breeding history of PB1-95-2R-A629

PB1-95-2R-A629 originated as an F5 single plant selection from the cross PB1-88-2R-801 / VD403582. PB1-88-2R-801 was selected from the Plant Breeders 1 (PB1) cross Vanguard / Imber // Zephyr /// Heavyweight. PB1's Heavyweight is a sister line to PB1's Seven. VD403582 is a line that was entered in the 1988 Western Regional Spring Barley Nursery. The only pedigree information given for this barley was the designation Vander Have 4035-82. The population from which PB1-95-2R-A629 was selected was grown in Tammany, Idaho, as an F2, F3, and F4 bulk. In F5 single head hills were selected on the basis of agronomic appearance, yield and test weight. These 1994 Tammany selections were tested in PB1's preliminary, intermediate and advanced yield trials as well as in cooperating university trials. About 2% of PB1-95-2R-A629 heads are mid-dense while the remainder are lax. Over the past six (6) generations PB1-95-2R-A629, including the variant, has remained genetically stable and uniform.

Exhibit B: Statement of distinctness

PB1-95-2R-A629 is most similar to the two row, spring, feed barley Seven. PB1-95-2R-A629 is distinguishable from Seven for the following traits.

PB1-95-2R-A629 has short rachilla hairs while Seven has long rachilla hairs.

PB1-95-2R-A629 heads on average 3 to 4 days earlier than does Seven (Table 1).

PB1-95-2R-A629's plant height averages 7 to 8 cm shorter than Seven's (Table 2).

PB1-95-2R-A629 is moderately resistant to barley stripe rust while Seven is susceptible to the disease (Table 3).

TABLE 1**Heading date in days from January 1 Tested by Student Paired t**

<u>Location</u>	<u>Year</u>	<u>PB1-95-2R-A629</u>	<u>Seven</u>	<u>Difference</u>
Potlatch, Idaho	1995	191	197	6
Tammany, Idaho	1995	156	159	3
Tammany, Idaho	1996	169	170	1
Tammany, Idaho	1997	155	158	3
Tammany, Idaho	1998	157	161	4
Tammany, Idaho	1999	162	165	3
Tammany, Idaho	2000	156	162	6
Average		163.7	167.4	3.7**

TABLE 2**Plant heights in cm Tested by Student Paired t**

<u>Location</u>	<u>Year</u>	<u>PB1-95-2R-A629</u>	<u>Seven</u>	<u>Difference</u>
Potlatch, Idaho	1995	76.2	71.1	-5.1
Tammany, Idaho	1995	58.4	71.1	12.7
Tammany, Idaho	1996	68.6	88.9	20.3
Potlatch, Idaho	1997	73.7	86.4	12.7
Tammany, Idaho	1997	71.1	78.7	7.6
Tammany, Idaho	1998	94.0	94.0	0.0
Ferdinand, Idaho	1999	55.9	63.5	7.6
Tammany, Idaho	1999	71.1	71.1	0.0
Tammany, Idaho	2000	73.7	83.8	10.1
Average		71.4	78.7	7.3*

Table 3**% LEAF AREA COVERED WITH STRIPE RUST**

<u>Location</u>	<u>Year</u>	<u>PB1-95-2R-A629</u>	<u>Seven</u>	<u>Steptoe</u>
Bolivia	1997	5		50
Skagit Valley, WA	1997	0		96
San Louis, CO	1997	5		50
Potlatch, ID	1998	30	47	85
Tammany, ID	1998	35	70	82

Exhibit C: Objective description of PB1-95-2R-A629

PB1-95-2R-A629 is a two row, feed type, spring barley, Hordeum vulgare. Juvenile growth erect, tillering high. Leaves at booting yellow green; flag leaf semi upright with slight curl, waxy. First leaf below flag leaf mid-wide, long, glabrous; leaf sheath glabrous. Auricles white, glabrous. Basal leaf sheath tending to purple, glabrous. Heading date mid-season. Stem at maturity white, moderately stiff, number of nodes four; neck slightly snakey; collar closed; head exsertion slight; plant height medium short. Spike strap, lax, long, waxy, nodding at maturity; rachis edge hairy. Glumes 1/3 (in about 20% of heads) to 1/2 (in about 80% of heads) lemma length; glume awns rough, equal to glume length. Lemma awns long, rough, no teeth nor hairs; rachilla hairs short. Kernel covered, wrinkled, mid-long to long; aleurone colorless; shape at base on dorsal side depression.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

BELTSVILLE, MARYLAND 20705

OBJECTIVE DESCRIPTION OF VARIETY
BARLEY (HORDEUM VULGARE)

FORM APPROVED: OMB NO. 40-R3822

EXHIBIT C
(Barley)

INSTRUCTIONS. See Reverse.

NAME OF APPLICANT(S)

Plant Breeders 1 Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

851 East 7th Street

Moscow, ID 83843

FOR OFFICIAL USE ONLY

PVPD NUMBER

200100198

VARIETY NAME OR TEMPORARY

DESIGNATION
PB1-95-2R-A629

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (i.e. or) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

1 - SPRING 2 - FACULTATIVE WINTER 3 - WINTER Early Growth: 1 - PROSTRATE 2 - SEMIPROSTRATE
3 - ERECT

2. MATURITY (50% Flowering):

1 - EARLY (California Mariout) 2 - MIDSEASON (Betzes) 3 - LATE (Frontier)

No. of days Earlier than } 1 - BETZES 2 - CALIFORNIA MARIOUT 3 - CONQUEST 4 - DICKSON
 No. of days Later than } 5 - PIROLINE 6 - PRIMUS 7 - UNITAN

3. PLANT HEIGHT (From soil level to top of head):

1 - SEMIDWARF 2 - SHORT (California Mariout) 3 - MEDIUM TALL (Betzes) 4 - TALL (Conquest)

Cm. Shorter than } 1 - BETZES 2 - CALIFORNIA MARIOUT 3 - CONQUEST 4 - DICKSON
 Cm. Taller than } 5 - PIROLINE 6 - PRIMUS 7 - UNITAN

4. STEM:

Exertion (Flag to spike at maturity): 1 - 0 - 3 cm. 2 - 3 - 10 cm. Anthocyanin: 1 - ABSENT 2 - PRESENT
3 - 10 - 15 cm.

NO. OF NODES (Originating from node above ground)

Collar Shape: 1 - CLOSED 2 - V-SHAPED 3 - OPEN Shape of Neck: 1 - STRAIGHT 2 - SNAKY
4 - MODIFIED CLOSED OR OPEN 3 - OTHER (Specify) slightly snakey

5. LEAF:

Basal leaf sheath (seedling): 1 - GLABROUS 2 - PUBESCENT Position of flag leaf (at boot stage): 1 - DROOPING
2 - UPRIGHT

Waxiness: 1 - ABSENT (Glossy) 2 - SLIGHTLY WAXY
3 - WAXY

CM. LENGTH (First leaf below flag leaf) MM. WIDTH (First leaf below flag leaf)

Anthocyanin in leaf sheath: 1 - ABSENT 2 - PRESENT

6. HEAD:

Type: 1 - TWO-ROWED 2 - SIX-ROWED Density: 1 - LAX 2 - ERECT (Not dense)
3 - ERECT (Dense)

Shape: 1 - TAPERING 2 - STRAP 3 - CLAVATE Waxiness: 1 - ABSENT (Glossy) 2 - SLIGHTLY WAXY
4 - OTHER (Specify) 3 - WAXY

Lateral Kernel Overlap: 1 - NONE 2 - AT TIP Rachis (Hair on edge): 1 - LACKING 2 - FEW 3 - COVERED
3 - 1/4 - 1/2 OF HEAD

7. GLUME:

Length: 1 - 1/3 OF LEMMA 2 - 1/2 OF LEMMA Hair: 1 - NONE 2 - SHORT 3 - LONG
3 - MORE THAN 1/2 OF LEMMA

Hair covering: 1 - NONE 2 - RESTRICTED TO MIDDLE 3 - CONFINED TO BAND 4 - COMPLETELY COVERED

Awns: 1 - LESS THAN EQUAL TO LENGTH OF GLUMES 2 - EQUAL TO LENGTH OF GLUMES
3 - MORE THAN EQUAL TO LENGTH OF GLUMES

Awn Surface: 1 - SMOOTH 2 - SEMISMOOTH 3 - ROUGH

8. LEMMA:

☐ 5 Awn: 1 - AWNLESS 2 - AWNLET ~~ON CENTRAL ROWS~~ ~~AWNLESS ON LATERAL ROWS~~
 3 - SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 - SHORT (less than equal to length of spike)
 6 - LONG (longer than spike) 6 - HOODED

☐ 4 Awn Surface: 1 - AWNLESS 2 - SMOOTH 3 - SEMISMOOTH 4 - ROUGH

☐ 1 Teeth: 1 - ABSENT 2 - FEW 3 - NUMEROUS

☐ 1 Hair: 1 - ABSENT 2 - PRESENT

☐ 1 Shape of base: 1 - DEPRESSION 2 - SLIGHT CREASE
 3 - TRANSVERSE CREASE

☐ 1 Rachilla Hairs: 1 - SHORT 2 - LONG

9. STIGMA:

☐ 2 Hairs: 1 - FEW 2 - MANY

10. SEED:

☐ 2 Type: 1 - NAKED 2 - COVERED

☐ 1 Hairs on Ventral Furrow: 1 - ABSENT 2 - PRESENT

☐ 4 Length: 1 - SHORT (8.0 mm.) 2 - SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 - MIDLONG (8.5 - 9.5 mm.)
 4 - MIDLONG TO LONG (9.0 - 10.5 mm.) 5 - LONG (10.0 mm.)

☐ 4 Wrinkling of hull: 1 - NAKED 2 - SLIGHTLY WRINKLED 3 - SEMIWRINKLED 4 - WRINKLED

☐ 1 Aleurone Color: 1 - COLORLESS (White or Yellow) 2 - BLUE

☐ 0 ☐ 1 PERCENT ABORTIVE

☐ 5 ☐ 0 GMS. PER 1000 SEEDS

11. DISEASE: (0 - Not Tested, 1 - Susceptible, 2 - Resistant)

☐ 0 SEPTORIA

☐ 0 NET BLOTCH

☐ 0 SPOT BLOTCH

☐ 0 POWDERY MILDEW

☐ 0 LOOSE SMUT

☐ 0 BACTERIAL BLIGHT

☐ 0 COVERED SMUT

☐ 0 FALSE LOOSE SMUT

☐ 0 STEM RUST

☐ 0 LEAF RUST

☐ 0 SCAB

☐ 0 SCALD

☐ 0 AY

☐ 0 BSMV

☐ 0 BYDV

☐ 2 OTHER (Specify)
 Stripe Rust

12. INSECT: (0 - Not tested, 1 - Susceptible, 2 - Resistant)

☐ 0 GREEN BUG

☐ 0 ENGLISH GRAIN APHID

☐ 0 CHINCH BUG

☐ 0 ARMYWORM

☐ 0 GRASS HOPPERS

☐ 0 CEREAL LEAF BEETLE

☐ 0 OTHER (Specify)

HESSIAN FLY RACES

☐ 0 GP

☐ 0 A

☐ 0 B

☐ 0 C

☐ 0 D

☐ 0 E

☐ 0 F

☐ 0 G

13. CHEMICAL (0 - Not Tested, 1 - Susceptible, 2 - Resistant)

☐ 0 DDT

☐ 0 OTHER (Specify)

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Seven	Seed size	Seven
Leaf size	Seven	Coleoptile elongation	Seven
Leaf color	Seven	Seedling pigmentation	Seven
Leaf carriage	Seven		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

- Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
- Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
- Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

FORM LFGS-470 S (8-80) (REVERSE)

VARIETY DESCRIPTORS

BARLEY (Hordeum _____)

1. DESCRIBE METHODS USED FOR TESTING AND EVALUATING VARIETY:

See attached sheet

2. REACTION TO ENVIRONMENTAL FACTORS:

- a. Winter survival (circle one or range) POOR EXCELLENT FAIR NOT APPLICABLE GOOD
- Compared to _____ LESS SAME MORE
(known variety)

- b. Reaction to major diseases within area of adaptation (list) _____
Stripe Rust Moderately Resistant

- c. Reaction to major insects within area of adaptation (list) _____

- d. Utilization (circle one) FEED MALTING EITHER

- e. Other factors _____

3.* PLANT CHARACTERISTICS

- a. Habit of growth (circle one) WINTER SPRING OTHER _____
- b. Spike (circle one) TWO-ROWED SIX-ROWED
- c. Coleoptile color (circle one) GREEN PURPLE OTHER _____
- d. Juvenile plant growth habit (circle one)
PROSTRATE SEMI-PROSTRATE ERECT
- e. Plant tillering (circle one) LOW INTERMEDIATE HIGH
LESS THAN SAME AS MORE THAN Seven
(known variety)

* - HIGH PRIORITY DESCRIPTORS

- 4.* LEAVES:
- a. Color at booting (circle one) YELLOW-GREEN GREEN DARK-GREEN BLUE-GREEN
Appears most similar to Seven (known variety)
- b. Flag leaf at booting
(circle one) DROOPING semi UPRIGHT
(circle one) CURLED NOT CURLED
(circle one) WAXY SLIGHTLY WAXY NOT WAXY
5. FIRST LEAF BELOW FLAG LEAF:
- a. 16 $\frac{1}{4}$ average millimeters in width
(circle one) NARROW MID-WIDE WIDE
- b. 267 average millimeters in length
(circle one) SHORT MID-LONG LONG
- c. Pubescence present on blade? YES NO
- d. Pubescence present on sheath? YES NO
6. AURICLES:
- a. Color (circle one) WHITE PURPLE OTHER _____
- b. Pubescence present? YES NO
7. BASAL LEAF SHEATH:
- a. Pubescence present at seedling stage? YES NO
- b. Color (circle one) Tending to PURPLE WHITE OTHER _____
- 8.* TIME OF HEADING: (circle one) EARLY MID-SEASON LATE OTHER _____
Total days to heading after planting 81 days
3 $\frac{1}{4}$ Average number of days earlier than Seven (known variety)
OR
1 $\frac{1}{4}$ Average number of days later than Steploe (known variety)
9. STEM:
- a. Color (circle one) WHITE PURPLE OTHER _____

- b. Strength (circle one) WEAKER THAN WEAK EQUAL TO MODERATELY STIFF STRONGER THAN STIFF
Baroness
(known variety)
- c. Number of nodes 4
- d. Shape of neck (circle one) STRAIGHT slightly SNAKY OTHER _____
- e. Shape of collar (circle one) CLOSED V-SHAPED OPEN
- f. Exsertion (circle one) SLIGHT INTERMEDIATE FULLY
- 10.* PLANT HEIGHT:
- a. Relative (circle one or range) SHORT MEDIUM SHORT MEDIUM
MEDIUM TALL TALL
- b. Average height 76 centimeters
Range 58 to 99 centimeters. (over years)
Height is uniform at a single location
- c. _____ centimeters taller than _____ (known variety)
OR
2 1/2 centimeters shorter than Baroness (known variety)
- 11.* SPIKE:
- a. Shape (circle one or range) FUSIFORM OBLONG CLAVATE OTHER _____
- b. Density (circle one) LAX LAX to DENSE DENSE
- c. Position of spike at maturity (circle one) ERECT INCLINED NODDING
- d. Length of spike (circle one) SHORT MID-LONG LONG
- e. If six-rowed, describe overlap of lateral kernels (circle one)
NONE AT TIP 1/4 to 1/2 of HEAD
- f. Waxiness (circle one) WAXY SLIGHTLY WAXY NOT WAXY
- g. Hairiness of rachis edge (circle one) LACKING FEW COVERED
- h. Shattering (circle one or range) 1 2 3 4 5 6 7 8 9
(very low) (very high)
LESS THAN SAME AS MORE THAN Seven
(known variety)
- i. Percent of florets and spikelets 0 to 1 %
- j. Threshability (circle one) 1 2 3 4 5 6 7 8 9
(easy) (hard)

* - HIGH PRIORITY DESCRIPTORS

12. GLUMES:

- a. Length relative to kernel length (circle one) 20% 1/3 AS LONG 80% 1/2 AS LONG >1/2 AS LONG
- b. Hairiness

1. Type (circle one or range) NONE RESTRICTED TO MIDDLE
 CONFINED TO BAND COMPLETELY COVERED
2. Length of hairs (circle one) NONE SHORT LONG

c. Awns

1. Length-relative to glume length (circle one or range)
 LESS THAN EQUAL TO MORE THAN
2. Surface (circle one) SMOOTH SEMI-SMOOTH ROUGH

13.* LEMMA:

a. Awnedness/Hoodedness

1. Type (circle one)
 ELEVATED HOODS
 SESSILE HOODS
 AWNLESS ON ALL ROWS
 AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS
 SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS
 SHORT (<LENGTH OF SPIKE)
 EQUAL (EQUAL LENGTH OF SPIKE)
LONG (>LENGTH OF SPIKE)

2. If awned, describe surface (circle one) SMOOTH SEMI-SMOOTH ROUGH

- b. Teeth on nerves (circle one) ABSENT FEW NUMEROUS
- c. Hairs (circle one) PRESENT ABSENT
- d. Shape at base on dorsal side (circle one)
DEPRESSION SLIGHT CREASE TRAVERSE CREASE
- e. Hairs on rachilla (circle one) SHORT LONG

14.* ADDITIONAL CHARACTERISTICS OF KERNEL:

- a. Type (circle one) NAKED COVERED
- b. If covered, describe wrinkling of hull (circle one)
WRINKLED SEMI-WRINKLED SLIGHTLY WRINKLED
- c. Length (circle one) SHORT SHORT TO MID-LONG MID-LONG
MID-LONG TO LONG LONG

* - HIGH PRIORITY DESCRIPTORS

Range in length 8.0 to 11.0 millimeters

d. Aleurone color (circle one) COLORLESS BLUE

e. Average weight per 1,000 seeds 50 1/4 grams.

f. Seeds of this variety are most similar to Seven (known variety)

15.* VARIANT (see definition)

Describe variants observed, including frequency of occurrence. Not to include off-type. _____

About 20% of PBI-75-2R-A629's heads have glumes that
are shorter than 1/2 lemma length.

16.* LIST ANY OTHER TRAITS OR SPECIAL MARKERS THAT MAY BE HELPFUL IN IDENTIFYING THE VARIETY, INCLUDING CHARACTERISTICS DETERMINED BY USE OF BIOCHEMICAL METHODS (e.g. PHENOL REACTION OR ELECTROPHORESIS). _____

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Plant Breeders 1 Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER PB1-95-2R-A629	3. VARIETY NAME
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 851 East 7th Street Moscow, ID 83843	5. TELEPHONE (include area code) 208-882-4483	6. FAX (include area code) 200100198
	7. PVPO NUMBER	

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO
If no, give name of country

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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